

Claims

- [c1] A wide angle reflective element for a mirror assembly for a vehicle comprising:
a wide angle substrate having an exterior surface comprising a less curved inboard portion or surface and a more curved outboard portion or surface, said substrate comprising a polymeric resin material; and
a glass film disposed at said exterior surface, said glass film adapted to substantially conform to said exterior surface of said wide angle substrate, said glass film comprising a glass material and having a thickness of less than approximately 0.8 mm.
- [c2] The wide angle reflective element of claim 1, wherein said glass film comprises a flexible glass film.
- [c3] The wide angle reflective element of claim 1, wherein said substrate is cut from a molded or extruded or cast strip or sheet, said glass film being applied to said strip or sheet, at least two substrates being cut from said strip or sheet.
- [c4] The wide angle reflective element of claim 3 including a reflective film applied to said strip or sheet on an inner

surface of said substrates opposite said exterior surface.

[c5] The wide angle reflective element of claim 1 including a reflective film applied to an inner surface of said substrate opposite said exterior surface.

[c6] The wide angle reflective element of claim 5, wherein said reflective film comprises a polymeric reflective film laminated or otherwise adhered or applied to said inner surface of said substrate.

[c7] The wide angle reflective element of claim 6, wherein said reflective film comprises an all polymer-thin-film multilayer, high reflective mirror film comprising multiple coextrusion of many plastic layers to form a highly reflective mirror film.

[c8] The wide angle reflective element of claim 1 including a reflective film applied to said exterior surface of said substrate, said glass film being applied to an exterior surface of said reflective film.

[c9] The wide angle reflective element of claim 8, wherein said reflective film comprises a polymeric reflective film laminated or adhered or otherwise applied to said exterior surface of said substrate.

[c10] The wide angle reflective element of claim 9, wherein

said reflective film comprises an all polymer-thin-film multilayer, high reflective mirror film comprising multiple coextrusion of many plastic layers to form a highly reflective mirror film.

[c11] The wide angle reflective element of claim 1, wherein said reflective element is adapted for one of an interior rearview mirror assembly and an exterior rearview mirror assembly.

[c12] A method for forming a reflective element substrate for a mirror assembly of a vehicle comprising:
generally continuously forming an elongated sheet of substrate material, said substrate material comprising a polymeric resin material;
applying a substantially transparent functional film to a surface of said elongated sheet;
unrolling said substantially transparent functional film from a reel or roll of said film and applying said unrolled film to said surface of said elongated sheet generally continuously as said sheet is formed or extruded or cast;
and
forming two or more mirror substrates from said elongated sheet after said film is applied to said surface of said sheet.

[c13] The method of claim 12, wherein said substantially

transparent functional film provides an anti-abrasion function.

- [c14] The method of claim 12, wherein said substantially transparent functional film provides a hydrophobic function or a hydrophilic function.
- [c15] The method of claim 12, wherein said functional film comprises an ultrathin glass material which is sufficiently flexible to be provided in a reel or roll.
- [c16] The method of claim 12, wherein said substrates are formed with a wide angle or multi-radius exterior surface, said functional film being sufficiently flexible to conform to said wide angle or multi-radius curved surface.
- [c17] The method of claim 12 including applying a reflective film, such as a polymeric reflective film or the like, to an opposite surface of said sheet.
- [c18] The method of claim 17, wherein said reflective film is sufficiently flexible to be provided in a reel or roll form, said method including unrolling said reflective film and generally continuously applying said reflective film to said opposite surface of said generally continuously formed sheet.

- [c19] The method of claim 12 including applying a reflective film, such as a polymeric reflective film or the like, to said surface of said sheet, wherein applying said functional film comprises applying said functional film to said reflective film.
- [c20] The method of claim 19, wherein said reflective film is sufficiently flexible to be provided in a reel or roll form, said method including unrolling said reflective film and generally continuously applying said reflective film to said surface of said generally continuously formed sheet.
- [c21] The method of claim 12 including forming a vehicle mirror assembly with one of said two or more mirror substrates.